LISTINGS OF THE CLAIMS:

1. (Previously presented) A remote plasma enhanced cleaning apparatus comprising:

a main process chamber; and

a loadlock chamber connected to the main process chamber,

wherein the main process chamber comprises a staging device adjacent to the loadlock chamber for loading the silicon wafers from the loadlock chamber into the main process chamber and for unloading the silicon wafers from the main process chamber into the loadlock chamber;

carrier robot disposed in a center portion of the main process chamber,

wherein the carrier robot rotates and moves around the center of the main process chamber and transfers the silicon wafers to an adsorption assembly, an anneal assembly, and a cooling assembly, and wherein the assemblies are disposed in the main process chamber around the carrier robot and spaced apart from one another, wherein the absorption assembly comprises absorption stages, the anneal assembly comprises anneal stages and the cooling assembly comprises cooling stages, and wherein pins are disposed on at least one of the absorption stages, the anneal stages or the cooling stages and move upward and downward to separate the silicon wafers from at least one of the absorption stages, the anneal stages or the cooling stages , wherein the adsorption assembly comprises two adsorption stages for holding the silicon wafers during an adsorption process, the anneal assembly comprises two anneal stages for holding the silicon wafers during an annealing process, and the cooling assembly comprises two cooling stages for holding the silicon wafers during a cooling process and wherein the absorption assembly comprises a single chamber and the two absorption stages share a processing space within the single absorption chamber, the anneal assembly comprises a single chamber and the two anneal stages share a processing space within the single anneal chamber, and the cooling assembly comprises a single chamber and the two cooling stages share a processing space within the single cooling chamber.

2. (Canceled).

3. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 1, wherein the adsorption assembly further comprises a remote plasma generator disposed above the adsorption chamber to transform a N_2 gas, a H_2 gas, and a NF_3 gas into plasma, thereby forming active gas species.

4. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 3, wherein the pins are disposed on the absorption stages to separate the silicon wafers from the adsorption stages.

5. (Canceled)

6. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 1, wherein the anneal assembly further comprises heating means for heating the silicon wafers on the anneal stages.

7. (Original) The remote plasma enhanced cleaning apparatus of claim 6, wherein the anneal chamber comprises heating wires disposed in the anneal stages and lamps disposed in an upper portion of the anneal chamber to heat the silicon wafers.

8. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 6, wherein the pins are disposed on the anneal stages to separate the silicon wafers from the anneal stages.

9. (Canceled)

10. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 1, wherein the cooling assembly further comprises cooling means for cooling the silicon wafers on the cooling stages.

11. (Original) The remote plasma enhanced cleaning apparatus of claim 10, wherein the cooling means comprises a gas supply pipe for supplying the cooling chamber with a cooling gas

or cooling source supplies for supplying a cooling gas to the cooling source supply lines within the cooling stages.

12. (Previously presented) A remote plasma enhanced cleaning apparatus comprising:

a main process chamber;

a loadlock chamber connected to the main process chamber, wherein the main process chamber comprises a staging device adjacent to loadlock chamber for loading silicon wafers from the loadlock chamber into the main process chamber and for unloading the silicon wafers from the main process chamber into the loadlock chamber,

a carrier robot disposed in a center of the main process chamber, wherein the carrier robot rotates and moves around the center of the main process chamber, and

an adsorption assembly disposed adjacent to the carrier robot in the main process chamber, wherein the adsorption assembly allows native oxide films on the silicon wafers to react with active gas species to form reaction films including a mixture of Si, N, H, and F, and wherein the active gas species are formed by transforming a N_2 gas, a H_2 gas, and a NF_3 gas into plasma;

an anneal assembly disposed adjacent to the adsorption chamber and the carrier robot in the main process chamber, wherein the anneal assembly heats and sublimates the reaction films on the silicon wafers, and

a cooling assembly disposed adjacent to the anneal assembly and the carrier robot in the main process chamber, wherein the cooling assembly cools the heated silicon wafers, wherein the carrier robot transfers the silicon wafers to and from the adsorption assembly, the annealing assembly, the cooling assembly and the staging device , wherein the absorption assembly comprises absorption stages, the anneal assembly comprises anneal stages and the cooling assembly comprises cooling stages, and wherein pins are disposed on at least one of the absorption stages, the anneal stages or the cooling stages and move upward and downward to separate the silicon wafers from at least one of the absorption stages, the anneal stages or the cooling stages , wherein the adsorption assembly comprises two adsorption stages for holding the silicon wafers during an adsorption process, the anneal assembly comprises two anneal stages for holding the silicon wafers during an annealing process, and the cooling assembly comprises two cooling stages for holding the silicon wafers during a cooling process and wherein the absorption assembly comprises a single chamber and the two absorption stages share a processing space

within the single absorption chamber, the anneal assembly comprises a single chamber and the two anneal stages share a processing space within the single anneal chamber, and the cooling assembly comprises a single chamber and the two cooling stages share a processing space within the single cooling chamber.

13. (Canceled)

14. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 12, wherein the adsorption assembly further comprises

a first gas injection pipe connected to a gas distributor located at an upper portion of the adsorption chamber, wherein a mixture of a N_2 gas and a H_2 gas is injected into the adsorption chamber via the first gas injection pipe;

a remote plasma generator to transform the mixture of the N_2 and H_2 gases into plasma using remote plasma to form the active gas species; and

a second gas injection pipe disposed at a side of the adsorption chamber to inject a NF_3 gas into the adsorption chamber.

15. (Canceled)

16. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 12, wherein the anneal assembly further comprises heating means for heating the silicon wafers on the anneal stages to sublimate the reaction films on the silicon wafers.

17. (Original) The remote plasma enhanced cleaning apparatus of claim 16, wherein the anneal chamber comprises heating wires disposed in the anneal stages and lamps disposed in an upper portion of the anneal chamber to heat the silicon wafers.

18. (Canceled)

19. (Previously presented) The remote plasma enhanced cleaning apparatus of claim 12, wherein the cooling assembly further comprises a cooling means for cooling the silicon wafers on the cooling stages.

20. (Original) The remote plasma enhanced cleaning apparatus of claim 19, wherein the cooling means comprises a gas supply pipe for supplying the cooling chamber with a cooling gas or cooling source supplies for supplying a cooling gas to cooling source supply lines in the cooling stages.